

AMENDMENTS TO THE CLAIMS

1. (Original) A method of manufacturing a thin film comprising:
a low temperature highly doped layer growing step of performing dopant doping while growing the thin film at a given first temperature;
an annealing step of interrupting the growth of the thin film and annealing the thin film at a given second temperature higher than said first temperature; and
a high temperature lowly doped layer growing step of growing the thin film at said second temperature.
2. (Original) The method according to Claim 1, wherein a given number of said low temperature highly doped layer growing step, said annealing step and said high temperature lowly doped layer growing step are repeated.
3. (Original) A method of manufacturing a thin film comprising:
a low temperature highly doped layer growing step of performing dopant doping while growing the thin film at a given first temperature; and
an annealing step of interrupting the growth of the thin film and annealing the thin film at a given second temperature higher than said first temperature.
4. (Original) The method according to Claim 3, wherein a given number of said low temperature highly doped layer growing step and said annealing step are repeated.
5. (Original) The method according to any one of Claims 1 to 4, wherein a heat-treatment from said first temperature to said second temperature is performed by radiation of a laser beam.
6. (Original) A method of manufacturing a p-type zinc oxide thin film comprising:

a low temperature highly doped layer growing step of performing nitrogen doping while growing the zinc oxide thin film at a given first temperature;

an annealing step of interrupting the growth of the zinc oxide thin film and annealing the zinc oxide thin film at a given second temperature higher than said first temperature; and

a high temperature lowly doped layer growing step of growing the zinc oxide thin film at said second temperature.

7. (Original) The method according to Claim 6, wherein a given number of said low temperature highly doped layer growing step, said annealing step and said high temperature lowly doped layer growing step are repeated.

8. (Original) The method according to Claim 6 or 7, wherein said first temperature is about 300 °C and said second temperature is about 800 °C.

9. (Currently Amended) The method according to any one of ~~Claims 6 to 8~~ Claim 6 or 7, wherein a heat-treatment from said first temperature to said second temperature is performed by radiation of a laser beam.

10. (Currently Amended) A semiconductor device comprising the p-type zinc oxide thin film manufactured by the method according to any one of ~~Claims 6 to 8~~ Claim 6 or 7.

11. (Original) The semiconductor device according to Claim 10, said device is a light emitting device.

12-20. (Canceled)

21. (New) The method according to Claim 8, wherein a heat-treatment from said first temperature to said second temperature is performed by radiation of a laser beam.

22. (New) A semiconductor device comprising the p-type zinc oxide thin film manufactured by the method according to Claim 8.